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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/341,894	12/15/1999	MARC PIECHACZYK	19141-007	5731

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PATENT ADMINISTRATOR
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EXAMINER

WOITACH, JOSEPH T

ART UNIT	PAPER NUMBER
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1632

DATE MAILED: 12/14/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/341,894

Applicant(s)

PIECHACZYK ET AL.

Examiner

Joseph T. Woitach

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 September 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 44,45,47,49,52,53,55 and 57 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 44,45,47,49,52,53,55 and 57 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

This application is a 371 national stage filing of PCT/FR98/00081, filed January 16, 1998 which claims benefit to foreign application FR 97/00540, filed January 20, 1997 in France.

Applicants' amendment filed August 19, 2005 was received.. Upon review, it would have been considered a non-compliant amendment because all the claims were not listed.

Applicants' amendment filed September 27, 2005 has been received and entered. Claims 1-43, 46, 48, 50, 51, 54, 56, 58 and 59 have been canceled. Claims 44 and 52 have been amended. Claims 44, 45, 47, 49, 52, 53, 55 and 57 are pending and currently under examination.

Information Disclosure Statement

The information disclosure statement (IDS) submitted on October 3, 2005 is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims previously rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one

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skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention is withdrawn.

The cancellation of the embodiments that were subject of the rejection, the embodiment wherein the cell produces "a concentration exceeding 100ng/ml of serum" considered new matter, has obviated the basis of the rejection.

Claim Rejections – 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 44, 45, 47, 49, 52, 53, 55 and 57 stand rejected under 35 U.S.C. 102(b) as being anticipated by Wright *et al.* (1992).

Claims 44, 45, 47, 49, 52, 53, 55 and 57 stand rejected under 35 U.S.C. 102(b) as being anticipated by Stevenson *et al.*

Claims 44, 45, 47, 49, 52, 53, 55 and 57 stand rejected under 35 U.S.C. 102(b) as being anticipated by Chen *et al.* (1994) or Chen *et al.* (1996).

Applicants argue that the instant claims require that the modified non-B cell be able to be transplanted and secrete an antibody into the circulation of a mammal subject, whereas the cited references provide for a cell culture where antibodies are produced (page 4-5). Providing a summary of the invention in view of the art, Applicants note several important points of the

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claimed invention: the use of non-plasmocytes or non-B cells, the lack of detectable reactions against ectopic antibody and the lack of adverse reaction to the cell engrafted (page 5).

Applicants provide a detailed discussion of the art, and argue that the present reduction to practice, and post-filing art by the inventors demonstrates a clear proof of principle (pages 5-8).

See Applicants' amendment, pages 4-8. Applicants' arguments have been fully considered, but not found persuasive.

Initially, Examiner appreciates the summary of the invention and summary of the art at the time of filing, however there is nothing in Applicants' discussion that specifically would exclude the skilled artisan from viewing the breadth of the claims to include the teachings of Wright *et al.*, Stevenson *et al.* or Chen *et al.* For example, Applicants specifically argue that C2C12 cells transplanted into syngeneic mice provide proof of concept (page 7), however it is noted that the model used is a syngeneic mouse, not to the breadth of the claims for any form of transplantation, including xenogeneic transplantation, and related to the cell itself, it has been argued by Examiner that Wright *et al.* provides for a similar type of transformed cell, as well as Chen *et al.* for the use of COS cells, while Stevenson *et al.* provides specific teaching for transfection of muscle cells. Similarly for the transgene and the antibody expressed and produced by said transgene, there is nothing in the instant claims nor the present specification that would exclude the teachings of Wright *et al.*, Stevenson *et al.* or Chen *et al.* as being encompassed by the claimed invention. Examiner appreciates the working example and the evidence of progress provided in the post-filing art by the inventors (IDS filed October 3, 2005), however each of Wright *et al.*, Stevenson *et al.* and Chen *et al.* provide similar evidence and

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proof of concept. Importantly, given the specific teachings of each of the cited references, each would be considered encompassed by the invention as now claimed.

As stated previously, Wright *et al.* disclose non-lymphoid cells which contain heterologous polynucleotide sequences which express and secrete an antibody (summarized in abstract and page 130-section 6). Wright *et al.* discuss the use of the antibodies for therapeutic purposes clearly indicating that the antibody can be therapeutic (page 125). Further, Wright *et al.* give guidance and provide specific methods for the use of a variety of vectors and expression systems for expressing antibodies in cells which react to both viral and cancer antigens. In the instant case, any cell depending on its use or means of delivery would meet the limitation of intended use of this embodiment because the appropriate conditions would be found to maintain the cells. Furthermore, transformed cells are capable of proliferating in the form of a tumor in animal models, thus the cells of Wright *et al.* would be maintained in mammal. It is noted that the transformed cell lines taught by Wright *et al.* are similar to those disclosed in the working examples in the instant specification.

Stevenson *et al.* teach mammalian expression vectors capable of providing the expression and production of various antibodies which are secreted from the cells (see for example figure 1). Specific ScFv fragments are taught that encode portions of the antibody providing the native V_H and V_L regions unmodified. The antibody produced by Stevenson *et al.* therefore represents a native unmodified antibody molecule. The antigen to which the antibody reacts is directed to a tumor related epitopes (page 213). Further, the V_H1 portion of the sequence contains the leader sequence allowing for the exit of the protein from the cell (see figure 2 and legend). Finally,

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Stevenson *et al.* teach that the vectors can be used in to express the antibody in a variety of cells, including for example muscle cells (page 216).

Chen *et al.* teach mammalian expression vectors capable of providing the expression and production of various antibodies which are secreted from the cells (page 5932, figure 1). Chen *et al.* teaches Fab fragments does not alter the sequences that encode portions of the antibody, leaving the native V_H, C_H, C_K and V_K regions unmodified. The antibody produced by Chen *et al.* therefore represents a native unmodified antibody molecule. The antigen to which the antibody reacts is directed to a the gp120 molecule of HIV (abstract, page 5932). Further, Chen *et al.* teach signal leader sequences allowing for the exit of the protein from the cell (see figure 1). Further, Chen *et al.* teach signal leader sequences allowing for the exit of the protein from the cell (see figure 1). Finally, Chen *et al.* use the non-plasmacyte COS cell to demonstrate the expression of the Fab105.

Therefore, the vectors and cells transduced with said vectors which express an antibody as taught by Wright *et al.*, Stevenson *et al.* or Chen *et al.* anticipates the claims.

Conclusion

No claim is allowed.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after

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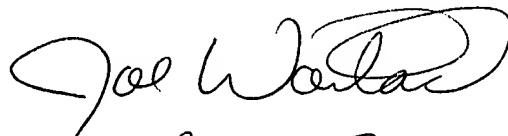
the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph Woitach whose telephone number is (571) 272-0739.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ram Shukla, can be reached at (571) 272-0735.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group analyst Dianiece Jacobs whose telephone number is (571) 272-0532.

Joseph T. Woitach



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